

THE STATUS OF CAREX PAMPAE KALELA (CYPERACEAE)  
IN SOUTHERN ARGENTINA

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Abstract

Carex pampae Kalela, which was described from Patagonia (Argentina), has no taxonomic merit and the name, which is illegitimate because it was derived from two entirely discordant elements, should hereafter be placed in synonymy under both C. subantarctica Speg. and C. atropicta Steud. as "Carex pampae Kalela, pro parte."

In 1940 Kalela described Carex pampae from the Patagonian region of Argentina and reported the species as ranging from Neuquen Province southward to Santa Cruz Province. Barros (1947) did not recognize C. pampae as a good species in a comprehensive treatment of the Cyperaceae of Argentina, nor did he place the name in synonymy at that time. Barros (1969) also failed to mention this species in a more recent treatment of strictly Patagonian Cyperaceae. The major purpose of this paper is to clarify the taxonomic status of this entity in southern South America.

Kalela (1940) described Carex pampae from plants collected at four localities (see Figs. 1 and 2): (1) Rio Negro: Angostura, 31-X-1937, Kalela 491 (syntype, H!), (2) Rio Negro: near Menque, 31-X-1937, Kalela 512 (syntype, H!), (3) Rio Negro: between Pilcaniyen and Bariloche, 1-XI-1937, Kalela 547 (syntype, H!), and (4) Santa Cruz: Rio Zabellos, 16-XII-1908, Skottsberg s.n. (lectotype [designated here], S!). Although Kalela (1940) gives the collection site for the first three-named specimens as situated in Neuquen Province, the labels on all three herbarium sheets read "Rio Negro" Province; that the latter is presumably the correct one in each case is supported by locality/political-unit affiliations in an Argentinian gazetteer.

After careful study of the original description and examination of the specimens listed above, it seems very clear that Carex pampae was described from characters derived from two distinctly different and distantly-related taxa, C. subantarctica Speg. and C. atropicta Steud. Plants from localities 1, 2, and 3 are referable to C. subantarctica (Fig. 1); plants from locality 4 are referable to C. atropicta (Fig. 2). Of these species, C. subantarctica is known only from Argentinian Patagonia--Neuquen Province south to Santa Cruz Province, whereas C. atropicta (typica) occurs throughout much of the southern portions of Argentina and Chile.

Because Carex subantarctica often occurs as a single-spiked, unisexual plant, it was not surprising to find all flowering material from Kalela's collections to be staminate. Therefore, while it is clear that Kalela based the perigynium and achene characteristics of C. pampae solely on Skottsberg's specimen, certain other features of this species seem to be based, at least in part, on his own collections. For instance, Kalela gives the spike length of C. pampae as 15-30 mm long, with the staminate portion being 15-25 mm. However, the staminate portion of the spikes from Skottsberg's specimen never exceeds 10 mm and the longest spike is under 20 mm. On the other hand, the length of the longest spike from Kalela's material is approximately 30 mm.

Certain vegetative features of Carex pampae also seem to be based on characters derived from both the Skottsberg and Kalela specimens. For example, Kalela described the basal leaf-sheaths of C. pampae as dark brown, but often appearing dark-reddish-tinged. After examining several specimens of both C. subantarctica and C. atropicta, I found the basal leaf-sheaths of the former to be brownish (varying from light brown to dark brown), whereas those of the latter are dark-reddish-tinged.

Based on perigynia characteristics alone, it seems certain that Kalela considered Carex pampae to be closely related to C. atropicta. Thus, the question arises, "Does the Skottsberg specimen by itself represent an entity distinct from C. atropicta?" After examining material of C. atropicta from several herbaria (BAB, BM, CAS, F, GH, H, HIP, L, LIL, MO, NA, NY, S, SGO, SI, UC, UPS, US; Holmgren et al., 1981), it is my opinion that the morphological features displayed by Skottsberg's specimen are well within the variation displayed by the species. Some evidence for this claim is presented below. Furthermore, I point out a critical morphological feature overlooked by Kalela (on the Skottsberg specimen), which makes his interpretation of a single-spiked entity with short culms as specifically distinct from a 2-4-spiked entity with long culms even more dubious.

Kalela (1940) described Carex pampae as having culms 15-30 cm long, with each culm bearing a solitary spike; in comparison, those of C. atropicta were given as 30-60 cm, with each bearing 2-4 spikes. Yet, on close examination of Skottsberg's specimen I found that one plant (see Kalela's Fig. 22, p. 68, plant on left) possesses an old culm, approximately 15 cm long, that bore two spikes the previous year, although the lower spike is now represented only by a bare axis (i.e., all perigynia and scales have fallen off) which is largely hidden by the upper spike. All other culms on the Skottsberg specimen, each of which appears to be single-spiked, are not yet fully mature, thus contributing to abnormal, usually diminutive, dimensions for some plant parts (e.g., culm length, achene length and width, perigynium length and width).

I have observed a number of plants of Carex atropicta sensu Kalela (i.e., plants with 2-4 spikes per culm) with culms less than 30 cm, and in some cases the culms barely exceed

10 cm. As well, I have seen a number of plants from Patagonia and Tierra del Fuego with culms well over 30 cm that bear only a single spike. And lastly, and most importantly, I have seen a few plants of this species (such as the Skottsberg specimen itself) that bear both 1-spiked and 2-4-spiked culms on the same rhizome. Indeed, it appears that plants with 1-spiked and 2-4-spiked culms often grow together and seemingly without correlation between culm length and number of spikes per culm.

Based on all specimens examined, it seems clear that the single-spiked form of *Carex atropicta* occurring in Patagonia and Tierra del Fuego represents part of the normal variation of the species, and thus is of no taxonomic significance. However, this claim is not intended to include the predominantly one-spiked plants from more northern locations (e.g., Cordoba and Mendoza provinces in Argentina and Atacama Province in Chile), which differ in several respects from the southern plants and which are generally treated as distinct entities (the northern plants were not mapped for this study).

Kalela (1940) in his description of *Carex pampae* failed to designate a holotype. Two Kalela sheets at H (Kalela 512, 547) are labeled *C. subantarctica*, and a third sheet, Kalela 491, is labeled "*C. subantarctica* = *C. pampae*"; two plants comprising Kalela 491 were photographed for Kalela's Fig. 23, and this is the only sheet noted as representing "type" material of *C. pampae*. The Skottsberg specimen at S was originally determined as *C. atropicta* forma *monodynamia* Griseb. by G. Klückenthal (as treated here the epithet *monodynamia* is only applicable to northern plants), but in 1940 it was annotated to *C. pampae* by Kalela. Based on the arrangement of the plants on this sheet, there is absolutely no doubt that this was the specimen photographed for Kalela's Fig. 22.

Because a holotype of *Carex pampae* was not designated at the time of publication, a lectotype must be selected from among the syntypes. According to the I.C.B.N. (Recommendation 7B and a Guide for the Determination of Types; Stafleu *et al.*, 1978), whenever the elements on which the name of a taxon is based are heterogeneous, all aspects of the protologue should be considered when choosing a lectotype. Therefore, because it is absolutely clear that Kalela's (1940) description of *C. pampae* was based primarily on characters derived from Skottsberg's specimen, and only secondarily on characters from his own collections, Skottsberg's specimen is chosen as the lectotype.

To summarize, *Carex pampae* has no taxonomic merit and the name, which is illegitimate, should hereafter be placed in synonymy under both *C. subantarctica* and *C. atropicta* as "*Carex pampae* Kalela, *pro parte*."

## Acknowledgments

The writer thanks Prof. Gerald B. Ownbey for valuable suggestions regarding the manuscript; and the curators of those herbaria whose specimens were utilized in the study, particularly those at H and S who supplied the Kalela and Skottsberg specimens, respectively.

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## Captions to Figures

- Figure 1. Distribution of Carex subantarctica; stars indicate the Kalela specimens (1 = Kalela 491; 2 = Kalela 512; 3 = Kalela 547).
- Figure 2. Distribution of Carex atropicta (typica); star indicates Skottsberg s.n., 16-XII-1908.



Figure 1



Figure 2